WHAT IS CLAIMED IS:

1. A wireless communication method for base stations each having a plurality of antenna elements to communicate with wireless terminals, comprising the steps of:

receiving signals from said wireless terminals via said antenna elements from which the received signals can be synthesized and to which the transmission signals can be synthesized to form an antenna directivity of certain beam patterns;

synthesizing said signals received from said antenna elements to form said antenna directivity of said certain beam pattern;

selecting one of said received signals from said wireless terminals on the basis of said synthesized received signals of different directivities and determining transmission beam direction information for use in directing the beam in the direction of said selected signal;

estimating a transmission beam slot on the basis of said determined beam direction information, and a table of the relations of transmission beam directions and time slots on which said radio beams are radiated in those directions; and

transmitting a down-link signal on said estimated transmission beam time slot from said antenna elements controlled.

2. A method according to claim 1, wherein said

plurality of base stations are disposed at the vertices of each triangle, and said formed antenna beam pattern of each base station is of 120 degree coordinated three-sector type in which three sector beam directions are identically located each other among said plurality of base stations.

3. A method according to claim 1, wherein said plurality of base stations are disposed at the vertices of each square, and said formed beam pattern of said antenna elements of each base station is of rectangular coordinated four-sector type in which radiation direction of each sector beams are shifted 45 degrees from those of adjacent said base stations.

4. A method according to claim 1, wherein said plurality of antenna elements provided in each base station to radiate a beam at a certain angle are controlled to radiate the beam a plurality of times with their radiation angles circularly shifted a certain angle at a time as time elapses so as to scan the periphery around said base station.

5. A method according to claim 2, wherein said antenna elements of each base station are controlled so that as a first arrangement of beam patterns, said beam patterns of said base stations are alternately changed in their sector direction to be 180 degree upside down among adjacent said base stations of odd rows of said base stations, but are all the same direction along each one of even rows of said base stations, and that

as a second arrangement of beam patterns, said beam patterns of said base stations are all the same direction along each one of odd rows of said base stations, but alternately changed in their sector direction to be 180 degree upside down along each one of even rows of said base stations, and said beam patterns of said base stations are alternately changed as above by first and second time slots.

6. A method according to claim 1, further comprising the steps of:

receiving said signals from said wireless terminals by said antenna elements of which the directivity is omnidirectional;

detecting the directions of said wireless terminals from which the signals have been received; and

determining a down-link beam direction on the basis of said detection of said directions.

7. A method according to claim 1, wherein a synchronizing clock is supplied to said base stations from a GPS system.

8. A method according to claim 1, further comprising the steps of:

estimating weighting coefficients for determining said beam patterns and transmission beam directions on the basis of said determined transmission beam direction information; and

controlling said antenna elements to transmit

down-link signals by use of said obtained beam patterns, beam directions and transmission beam time slots.

9. A wireless communication method for base stations to communicate with wireless terminals, comprising the steps of:

disposing a plurality of said base stations at the vertices of each square;

controlling beam patterns of antennas of said base stations, which antennas each have a plurality of antenna-elements from which the received signals are synthesized and to which the transmission signals are synthesized to form an antenna directivity of a certain beam pattern, so that said beam patterns of one of adjacent ones of said base stations are shifted in beam direction by 45 degrees or about 45 degrees from those of the other;

receiving signals from said wireless terminals via said antennas;

synthesizing said signals from said antenna elements according to said antenna directivity of said certain beam pattern;

receiving a desired signal from said wireless terminals on the basis of said synthesized received signals of different directivities; and

transmitting a down-link signal from said antenna of which the directivity is controlled to have said predetermined beam pattern.

10. A wireless communication method for base stations to communicate with wireless terminals, comprising the steps of:

disposing a plurality of said base terminals at the vertices of each triangle;

synthesizing received signals from and transmitted signals to a plurality of antenna elements that constitute an antenna of each of said base stations to form an antenna directivity having a certain beam pattern; and

controlling said beam patterns of said base stations to direct in the same direction dynamically or statically.

11. A wireless communication method for base stations to communicate with wireless terminals, comprising the steps of:

disposing a plurality of said base stations at the vertices of each square;

synthesizing received signals from and transmitted signals to a plurality of antenna elements that constitute an antenna of each of said base stations to form an antenna directivity having a certain beam pattern; and

controlling said beam patterns of said antennas of said base stations so that said beam patterns of one of adjacent ones of said base stations are shifted in beam direction by 45 degrees or about 45 degrees from those of the other.

12. A wireless communication method comprising the steps of:

disposing a plurality of base stations at the vertices of each triangle on a plane;

constructing an antenna of each base station by three sector antennas; and

synthesizing received signals from and transmitted signals to said antenna elements.

13. A wireless communication method comprising the steps of:

disposing a plurality of base stations at the vertices of each square on a plane;

constructing an antenna of each base station by four sector antennas; and

synthesizing received signals from and transmitted signals to said antenna elements;

14. A wireless communication method comprising the steps of:

disposing a plurality of base stations in a square cell shape;

constructing the antenna of each base station by 8 directional antennas; and

specifying the directivity of each antenna for each time slot so that two ones of three directional beams are perpendicular to each other and the other one is radiated at an angle of 135 degrees relative to said two beams.

15. A method according to claim 1, further

comprising the step of synchronizing the operations, and radiation of said base stations with each other by use of said table of said base stations.

16. A wireless communication system for a plurality of base stations to communicate with wireless terminals, each base station comprising:

an antenna having a plurality of antenna elements, the received signals from which, and the transmitted signals to which are respectively synthesized to form an antenna directivity having certain beam patterns;

a circuit for receiving signals from said wireless terminals via said antenna;

a circuit for synthesizing said signals from said antenna elements according to said antenna directivity of said certain beam pattern;

a circuit for selecting one of said received signals from said wireless terminals on the basis of said synthesized received signals of different directivities, and determining transmission beam direction information for use in directing the beam in said selected direction;

a circuit for generating transmission time slots on the basis of said transmission beam direction information from said decision circuit and an information table that shows the relations of transmission beam directions and beam time slots for use in radiating beams in those directions; and

a circuit for transmitting a down-link signal on said generated transmission beam time slot from said antenna controlled.

17. A system according to claim 16, wherein said base station further includes a circuit for synchronizing with the other base stations for the timing of radiation on the basis of said table.

18. A system according to claim 16, wherein said table is previously generated according to the attribute of the location of said base station, and changeably maintained in said base station.

19. A system according to claim 18, wherein said base station further includes a circuit for receiving the contents of said table from a host station of said base station.